

Figure 1a is a cross-sectional view of a semiconductor device. It shows a substrate 2 with an N⁺ region at the bottom and an N⁻ region above it. A multi-layered structure 15 is formed on the N⁻ region. This structure includes a top layer 21, a middle layer 22, and a bottom layer 23. The top layer 21 has a thickness 21a. The middle layer 22 has a thickness 22. The bottom layer 23 has a thickness 23. The structure 15 is formed by a series of layers 21, 22, and 23, with interfaces A between them. The structure 15 is formed by a series of layers 21, 22, and 23, with interfaces A between them.

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FIG. 2(b)

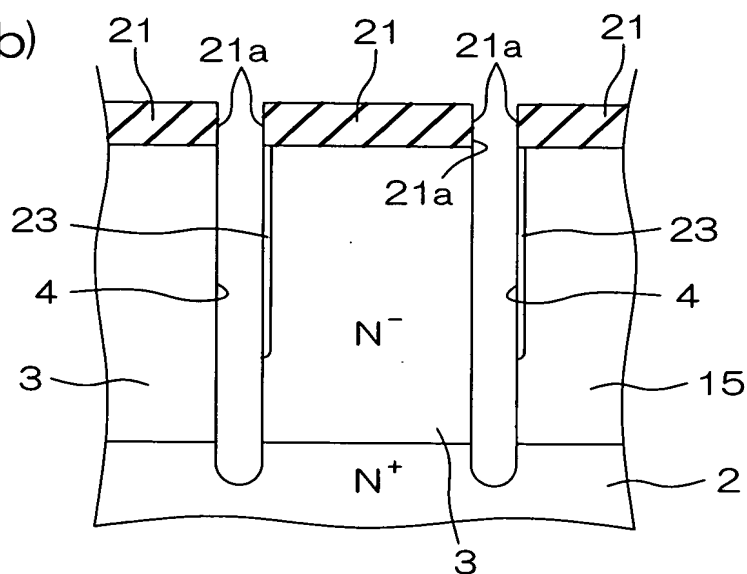
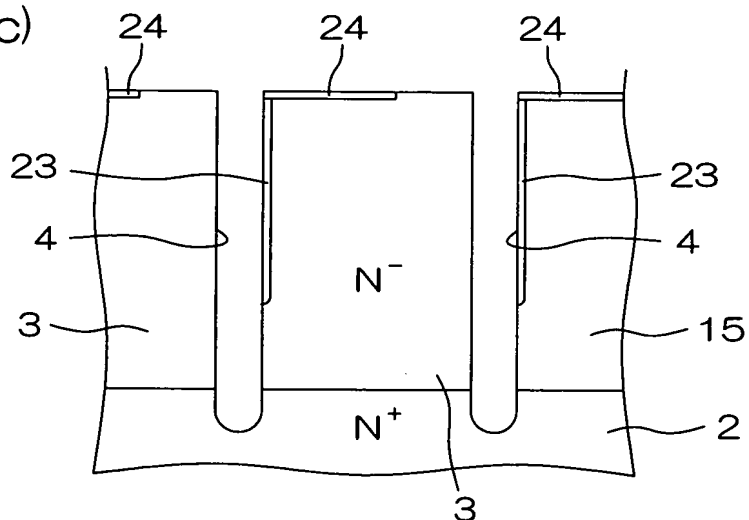


FIG. 2(c)



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FIG. 2(d)

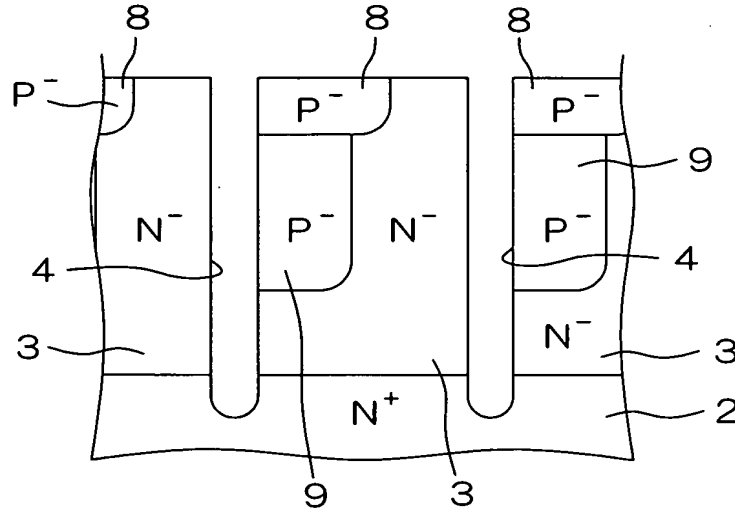


FIG. 2(e)

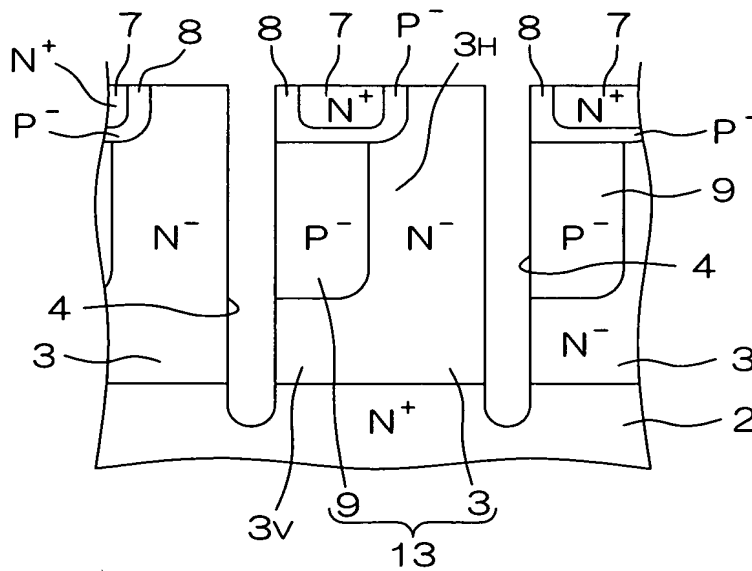


FIG. 3

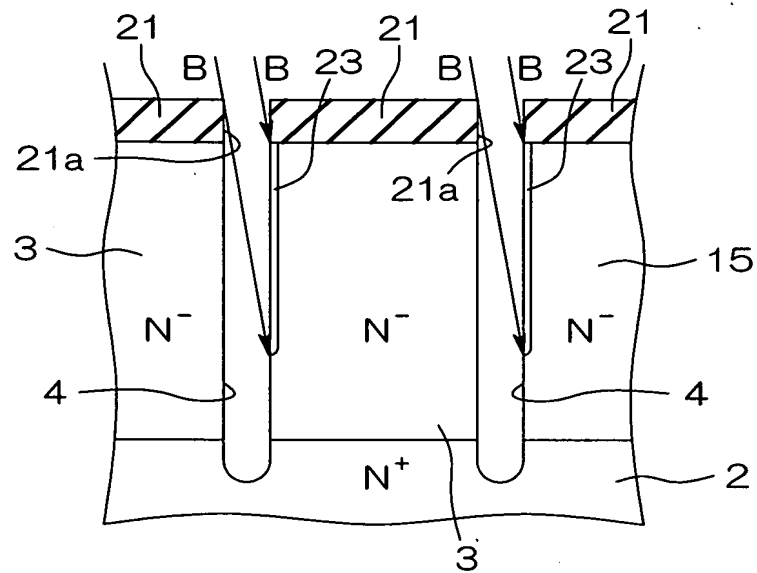


FIG. 4

